Amendments to the Drawings:

The attached sheet of amended drawings includes Fig. 11 with reference numeral 22 deleted from the lower portion of the figure. This change to the drawings corrects the use of reference number 22 twice in Fig. 11 to identify different elements.

It is noted that the deleted reference numeral 22 had identified a threaded stud which has been amended so as to be correctly identified by reference number 19.

Attached: One (1) sheet of "Replacement Drawings."

•• REMARKS/ARGUMENTS ••

The Official Action of January 12, 2006 has been thoroughly studied. Accordingly, the changes presented herein for the application, considered together with the following remarks, are believed to be sufficient to place the application into condition for allowance.

By the present amendment, the specification has been changed to recite "various additional components, such as threaded studs 19..." in paragraph [0026].

This change to the specification is supported in the original claims and has been added to the specification to provide antecedent support for the claim language.

Also by the present amendment, applicants are submitting an amended Fig. 11 in which the second use of reference numeral 22 has been deleted and reference numbers (19) have been added to identify threaded studs.

The Examiner is respectfully requested to acknowledge receipt and approval of the amendment to Fig. 11.

Entry of the changes to the specification is also respectfully requested.

Claims 1-25 are pending in this application.

Claims 14-25 stand withdrawn as being directed to a non-elected invention.

On page 2 of the Office Action the Examiner has objected to the drawings under 37 CFR §1.83(a).

Under this objection the Examiner has taken the position that the drawings do not depict the "additional component" recited in claim 5.

Applicants noted that, as recited in paragraph [0026], "various additional components, such as threaded studs 19 and a hollow heating pipe 20 are optionally attached to the upper mandrel member 13..."

These "additional components" are shown in the original drawings.

Accordingly, the object to the drawings should properly be withdrawn.

On page 3 of the Office Action the Examiner has objected to the drawings.

Under this objection the Examiner has noted that Fig. 11 includes two instances of reference numeral 22 that identify two different elements.

In response to this objection to the drawings, applicants are hereby submitting an amended Fig. 11 with reference numeral 22 deleted from the lower portion of the figure. This change to the drawings corrects the use of reference number 22 twice in Fig. 11 to identify different elements.

It is noted that the deleted reference numeral 22 had identified a threaded bolt which does not require detailed identification/description.

On page 4 of the Office Action the Examiner has objected to the specification as failing to provide proper antecedent basis for the recitation "mounting an additional component on the interior wall portions" in claim 5.

In response to this objection to the specification, paragraph [0026] has been changed to recite "various additional components, such as threaded studs 19 and a hollow heating pipe 20 are optionally attached to the upper mandrel member 13..."

Claims 1-13 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,007,634 to Weber et al. in view of U.S. Patent No. 6,843,646 to Ryan et al.

For the reasons set forth below, it is submitted that each of the pending claims are allowable over the prior art of record and therefore, the outstanding prior art rejection of the claims should properly be withdrawn.

Favorable reconsideration by the Examiner is earnestly solicited.

The Examiner has relied upon Weber et al. as disclosing:

> ...a nickel vapor deposition apparatus and method of producing a nickel article therein, in which the method includes providing a hollow mandrel 36 having interior wall portions defining a portion of the nickel article to be produced, purging the mandrel of oxygen/air via purge gas channels (50) and connectors (54), heating the mandrel interior wall portions (via heater 48 and circulating pump 46) to temperatures sufficient to deposit nickel in the presence of nickel carbonyl vapor (while not heating other portions of the interior wall, thus obtaining different temperature regions), passing nickel carbonyl vapor (via nickel carbonyl gas source 22) through the heated mandrel to produce the nickel article, while generating carbon monoxide as a mixture with nickel carbonyl vapor in the temperature range of 150-315 degrees Celsius, and removing the nickel article of greater than 0.05mm thickness from the mandrel (abstract; column 1, lines 4-26; column 2, lines 31-47 and 62-67; column 3, lines 1-67; column 4, lines 1-11; and Figures 1 and 2).

The Examiner states that Weber et al. "do not disclose use of a multi-part mandrel."

The Examiner has accordingly relied upon Ryan et al. as disclosing:

... a method of using a nickel blow mold and holder defining heat transfer passages in

> the form of a multi-part mandrel, in which the method includes the steps of providing a multi-part mandrel in the form of a mold cavity shell 10 and a mold holder 12 that further includes clamping/registering means (20,22) for holding and alignment, respectively, with the use of the multi-part mandrel being advantageous for obtaining a removable mandrel assembly having improved cooling/heating at the interface between the mold cavity shell and mold holder (abstract; column 1, lines 60-67; column 2, lines 1-15 and 48-67; column 3, line 1 through column 5, line 2; and Figures 1-6 and 8).

In combining the teachings of Weber et al. and Ryan et al. the Examiner has taken the position that:

> It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify the nickel vapor deposition apparatus and method of producing a nickel article therein, as disclosed by Weber et al., by using the nickel blow mold and holder defining heat transfer passages in the form of a multi-part mandrel, as taught by Ryan et al., in order to obtain a removable mandrel assembly having improved cooling/heating at the interface between the mold cavity shell and mold holder (Ryan et al.; abstract; column 2, lines 5-15; column 4, lines 54-67; and column 5, lines 1-2).

Applicants initially note that Reinhart Weber is a common inventor of the Weber et al. reference and the present application.

Accordingly, the present inventors are fully aware of the teachings of Weber et al.

The Examiner has relied upon Weber et al. as disclosing:

> ...a nickel vapor deposition apparatus and method of producing a nickel article therein, in which the method includes providing a hollow mandrel 36 having interior wall portions defining a portion of the nickel article to be produced...

This reliance mirrors applicants' independent claim 1 which recites, in part:

> ...providing a hollow multi-part mandrel having interior wall portions defining at least a portion of the exterior surface of a nickel article to be produced...

However, applicants note that in Weber et al. only the heat transfer fluid is passed though the mandrel. In Weber et al. the nickel carbonyl gas surrounds the mandrel and the nickel is deposited on the exterior surface of the mandrel.

Accordingly, the Examiner's interpretation and reliance upon Weber et al. are unfounded.

It is noted that Weber et al. is discussed on page 1 of applicants' specification. As discussed, Weber et al. is directed to the type of prior art deposition chamber that requires a substantial amount of time to purge both before and after a deposition process.

As discussed in paragraph [0005] of applicants' specification:

> The present invention eliminates the use of a separate deposition chamber by using a multi-part mandrel that itself becomes the deposition chamber, greatly reducing the purging time required for a particular size of product being produced.

It is submitted that the present invention is clearly distinguishable over Weber et al.

Ryan et al. is directed to a blow mold which happens to have a cavity shell that is made by a nickel vapor deposition process.

As the Examiner is no doubt aware and as discussed by Ryan et al., in blow molding processes a heated plastic tube referred to as a parison is inflated within a mold cavity so as to expand and conform to the shape of the mold cavity.

The Examiner has taken the position that:

> It would have been obvious...to modify the nickel vapor deposition apparatus and method of producing a nickel article therein, as disclosed by Weber et al., by using the nickel blow mold and holder defining heat transfer passages in the form of a multi-part mandrel, as taught by Ryan et al.

Such a position completely ignores the differences between Weber et al. (directed to a vapor deposition apparatus) and Ryan et al. (directed to a blow mold apparatus).

One skilled in the art of vapor deposition and familiar with Weber et al. would not look to the blow molding technology to solve problems related to purging, because the blow molding art does not require the type of purging required by the vapor deposition art.

Moreover, even if the teachings of Weber et al. and Ryan et al were properly combinable, the resulting combination would not render obvious a vapor deposition apparatus or process in which metal is deposited on the inside of a mandrel.

Based upon the above distinctions between the prior art relied upon by the Examiner and the present invention, and the overall teachings of prior art, properly considered as a whole, it is respectfully submitted that the Examiner cannot rely upon the prior art as required under 35 U.S.C. §103 to establish a prima facie case of obviousness of applicants' claimed invention.

It is, therefore, submitted that any reliance upon prior art would be improper inasmuch as the prior art does not remotely anticipate, teach, suggest or render obvious the present invention.

It is submitted that the claims, as now amended, and the discussion contained herein clearly show that the claimed invention is novel and neither anticipated nor obvious over the teachings of the prior art and the outstanding rejection of the claims should hence be withdrawn.

Therefore, reconsideration and withdrawal of the outstanding rejection of the claims and an early allowance of the claims is believed to be in order.

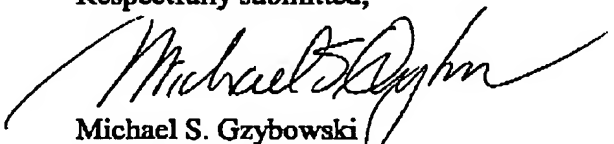
It is believed that the above represents a complete response to the Official Action and reconsideration is requested.

The prior art cited by the Examiner on page 6 of the Office Action has been noted. This prior art is not deemed to be particularly pertinent to applicants' claimed invention.

If upon consideration of the above, the Examiner should feel that there remain outstanding issues in the present application that could be resolved, the Examiner is invited to contact applicants' patent counsel at the telephone number given below to discuss such issues.

To the extent necessary, a petition for an extension of time under 37 CFR §1.136 is hereby made. Please charge the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 12-2136 and please credit any excess fees to such deposit account.

Respectfully submitted,



Michael S. Gzybowski
Reg. No. 32,816

BUTZEL LONG
350 South Main Street
Suite 300
Ann Arbor, Michigan 48104
(734) 995-3110